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ABSTRACT

Based on experience with the program in South Dakota, this document contains 54 questions and answers about tech prep, the integrated academic-vocational system of education encompassing 2 years of high school and 2 years of college. The guide provides information on such topics as the following: what tech prep is, how Perkins Act funds are used for the program, how tech prep programs are established, funding tech prep, activities that can be funded through the Perkins Act, who should teach applied academic courses, involvement of school counselors, tech prep demonstration projects, and resource persons for tech prep initiatives, on both the state and federal levels. Thirteen appendixes provide additional material to augment the brief answers given about tech prep in response to the questions. (KC)

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SOUTH DAKOTA

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# Frequently Asked Questions About

# TECH PREP

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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The South Dakota Tech Prep Initiative



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*A special thank you to Tina Sattler, South Dakota Tech Prep Initiative secretary.*

Sources of information for this document include:

The AVA Guide to Carl D. Perkins Vocational and Applied Technology Education Act of 1990 published by American Vocational Association, 1410 King Street, Alexandria, VA 22314.

The AVA Guide to Federal Funding for Tech Prep published by American Vocational Association, 1410 King Street, Alexandria, VA 22314.

Vocational Education Journal, published by American Vocational Association, 1410 King Street, Alexandria, VA 22314.

Various U.S. Department of Education documents and CORD/AIT publications.

To receive a copy of this document, please contact Micky J. Wienk, Lake Area Technical Insitute, PO Box 730, Watertown, SD 57201-0730 or 605/886-5872 ext. 288.

## Department of Education and Cultural Affairs

June 28, 1993

To: School Personnel, Business and Industry Representatives, Parents and Students

From: Larry P. Zikmund, State Director
Office of Adult, Vocational & Technical Education

Re: The South Dakota Tech Prep Initiative

The mission of the South Dakota Tech Prep Initiative is to prepare secondary and postsecondary students to live and work in the highly technical world of the 21st century through a rigorous education program that meets the performance standards of business and industry and provides the basis for the transition to additional education and/or the world of work.

It is the goal of the South Dakota Department of Education and Cultural Affairs/Office of Adult, Vocational & Technical Education to assist all South Dakota schools make the necessary changes in academic and technical coursework to prepare students for the 21st century. Integrated curriculum, application-rich coursework and the development of coherent sequences of articulated courses will prepare South Dakota students for rewarding careers and fulfilling lives.

We hope this document will answer questions about the national educational restructuring initiative called Tech Prep.

LPZ/MW/ch

Office of Adult, Vocational & Technical Education
700 Governors Drive, Pierre, SD 57501-2291 (605) 773-3423

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## FREQUENTLY ASKED QUESTIONS ABOUT TECH PREP

**1. What is meant by Perkins?**

The Carl D. **Perkins** Vocational and Applied Technology Act of 1990 is the legislation that provides secondary, postsecondary and adult vocational education programs with federal assistance for the time period of July 1, 1991 - June 30, 1996.

Categories funded through Perkins include: Title I - Vocational Education Assistance to the States, Title II - Basic State Grants for Vocational Education, Title III - Special Programs, which includes Tech Prep, and Title IV - National Programs. Further information may be obtained from *The AVA Guide to the Carl D. Perkins Vocational and Applied Technology Education Act of 1990.*

**2. How are Perkins funds allocated to states for the development of Tech Prep projects?**

The U.S. Congress authorized the government to spend up to $125 million on Tech Prep programs. The majority of the funding is allocated to states via Title III, Part E, of the Carl D. Perkins Vocational and Applied Technology Act of 1990.

Funding is allocated to states in proportion to the population of ages 15-19, 20-24, and 25-65, adjusted inversely by per capita income. South Dakota was allocated $208,000 in Fiscal Year 92, $280,000 in Fiscal Year 93, and $330,000 in Fiscal Year 94.

**3. What is Tech Prep?**

TECHnical PREParation is an innovative educational reform initiative designed to prepare students for the globally competitive, technical workplace. Tech Prep requires students to complete a cohesive sequence of integrated academic and technical coursework starting in high school and continuing through postsecondary education to an associate degree or two year certificate in a technical field. **Note:** Tech Prep *is not* a product you buy, a text you purchase, or a course you teach. It is a system of education.

Tech Prep is grounded on the following principles:

1. Academic learning and occupational skills development are inextricably linked.

2. Coursework is designed to help students see a purpose and real life connection between what they learn in school and their future work lives.

3. The goal is to prepare all students to leave school ready for work and future learning.

**4. Why is Tech Prep necessary?**

Studies commissioned by the U.S. Congress verify that:

1. Skill shortages are becoming a dominant labor problem. The workforce of the future will need increasing levels of technical skills.

2. High school vocational education programs cannot teach a sufficient level of skills for most jobs of the future. Experts estimate that nearly three-quarters of all future jobs will require postsecondary education.

3. Most young people will change jobs several times during their careers. Thus, they need training in skills that will take them beyond the first job. To be prepared for later jobs and changes in technology, students must become proficient in reading, comprehension, computation, reasoning, analysis, communication and problem solving.

4. Secondary and postsecondary programs have not unified their efforts. Instead, they have attempted to protect their turf and funding, which has resulted in duplicated programs and wasted dollars.

5. General education students, defined as those not pursuing a college-prep curriculum or vocational education curriculum, have no clear path to enter the workforce or pursue higher education.

Additional study results contributing to congressional concern can be found in **Appendix A**, page 16.

**5. How was the SD Tech Prep Initiative established?**

The SD Office of Adult, Vocational, and Technical Education established a Tech Prep Task Force in 1991 to develop the SD Tech Prep Initiative. The task force consisted of personnel from business and industry, government, and education. A list of task force members can be obtained from Micky J. Wienk.

The task force established the SD Tech Prep model, mission, vision, philosophy, and student exit outcomes. See **Appendix B**, page 18.

The SD Department of Education invited the four state supported postsecondary technical institutes to develop three-year Tech Prep projects. Those project proposals were evaluated by a committee consisting of representatives from the SD Board of Regents, Technology in Education Office, National Science Foundation-Statewide Systemic Initiative, and Council on Vocational Education. The approved projects received $20,000 for planning activities in Fiscal Year 92, and $45,000 per year for development and implementation activities in Fical Year 93 and 94.

School superintendents received information regarding the development of the projects during the 1991-92 school year. All school districts with approved vocational programs were invited to participate. Forty school districts and vocational multidistricts responded to the invitation.

Schools can contact the Tech Prep project coordinator(s) listed in question #19 to request inclusion in FY 94 Tech Prep activities.

Funding of Tech Prep projects is scheduled to continue on a Fiscal Year basis through 1996.

The FY 93 Tech Prep Project Application Guidelines and the FY 94 Tech Prep Project Annual Application may be checked-out from the South Dakota Curriculum Center.

**6. Are South Dakota schools required to participate in Tech Prep?**

No. Participation in Tech Prep is optional. Schools are encouraged to adopt Tech Prep as a vehicle for educational change, but are not required to do so.

**7. How are other states approaching the implementation of Tech Prep?**

All states and U.S. territories are implementing Tech Prep. Each state is required to expend federal funding according to legislative specifications. Examples of approaches taken by other states are listed in **Appendix C**, page 21.

**8. What are the required elements of a Tech Prep program if Perkins, Title III, Part E funding is used?**

According to the U.S. Department of Education, each federally funded Tech Prep project must contain elements one through seven. The additional four elements are strongly recommended.

1. An articulation agreement between consortium participants.
2. A 2 + 2 design with a common core of proficiency in math, science, communication, and technology.
3. A specifically developed Tech Prep curriculum appropriate to the needs of the consortium participants.
4. Joint inservice training of secondary and postsecondary instructors to effectively implement the Tech Prep curriculum.
5. Training programs for secondary and postsecondary counselors to recruit students, ensure program completion, and subsequent appropriate employment.
6. Equal access of special populations to the full range of Tech Prep programs.
7. Preparatory service such as recruitment, career and personal counseling, and occupational assessment.
8. Offer effective employment placement.
9. Transfer to 4-year baccalaureate programs.
10. Developed in consultation with business, industry, and labor.
11. Address dropout prevention, student re-entry, and the needs of special populations.

**9. Can schools develop 4+2+2 programs rather than the 2+2 programs designated above?**

Yes, but Perkins, Title III, Part E funds may only be used for Tech Prep activities in grade levels 11, 12, 13, and 14, except for preparatory services which may target students below grade 11.

**10. What is meant by 4+2+2 or 2+2?**

4+2+2 refers to a cohesive sequence of courses that begins in the 9th grade and leads to technical studies at the postsecondary level and articulates with baccalaureate studies at the university level. 4+2+2 = grade levels 9, 10, 11, 12 + 13, 14 + 15, 16.

2+2 refers to a cohesive sequence of courses that begins in the 11th grade and leads to an associate degree or two year certificate in a technical field. 2+2 = grade levels 11,12 + 13,14.

**11. What specific student outcomes will result from Tech Prep programs?**

Students completing the TECH PREP program will acquire:

1. an associate degree or two year certificate,
2. technical preparation in at least one field of engineering technology, applied science, mechanical, industrial, practical art or trade, or agriculture, health or business,
3. competence in math, science and communications, and
4. placement in employment.

**12. Can other Perkins funds be used by schools to develop Tech Prep programs?**

Yes. Perkins Title II, Section 235 funds may be used for the development and implementation of Tech Prep. Recipients remain bound by all the procedural requirements in section 235 (a), (b), and (c) of the Perkins Act and must conduct the program in accordance with the state plan.

**13. Are schools required to use Perkins, Title II, Section 235 funds if they are developing a Tech Prep program?**

No. Schools are not required to use Perkins, Title II, Section 235 funds to develop and implement Tech Prep. Schools can continue to use those funds for vocational-technical expenditures as designated in the regulations.

**14. If my school uses Perkins, Title II, Section 235 funding for Tech Prep, what are the requirements?**

1. Any Section 235 funds used for Tech Prep must improve the program.

2. The program must provide for "full participation" by members of special populations (individuals with handicaps or limited English proficiencies, educationally and economically disadvantaged people (including foster children), people who participate in programs designed to eliminate sex bias and individuals in correctional institutions). A school that uses Section 235 funding for Tech Prep must identify those students who will need special services.

3. The recipient must use federal funding for fewer programs or sites than received federal funding for Tech Prep in FY 1991.

4. The recipient must give priority to sites or programs that serve the highest concentrations of individuals who are members of special populations.

5. Tech Prep programs must:

   a. be of sufficient size, scope, and quality to be effective,
   b. integrate academic and vocational education through a coherent sequence of courses so students learn both academic and occupational skills, and
   c. provide equitable participation for special population students.

**15. What is a Tech Prep consortium?**

All SD schools using Perkins, Title III, Part E funds to develop and implement Tech Prep programs must be an official member of a Tech Prep Consortium. Each consortium must consist of at least one secondary school/vocational multidistrict with approved vocational technical programs and one postsecondary technical institute. The postsecondary technical institute must be the contracting agency for the Tech Prep consortium.

Starting July 1, 1993, the superintendent of each consortium school must sign a document titled, *Tech Prep Terms of Participation,* which commits that school district to the development and implementation of Tech Prep.

**16. How is funding awarded to the Tech Prep consortium?**

The South Dakota Office of Adult, Vocational, and Technical Education provides funding to four regional Tech Prep consortiums through the four state-supported postsecondary technical institutes.

Each consortium has a Tech Prep Project Coordinator. That coordinator develops an RFP (request for funding proposal) which is submitted for approval to the Office of Adult, Vocational, and Technical Education in April of each year.

Federal funding of Tech Prep projects is scheduled to continue on a fiscal year basis through 1996.

**17. Can my school access Title III, Part E funds without being part of a Tech Prep consortium?**

No. Federal regulations dictate that schools must be part of a Tech Prep consortium consisting of at least one secondary and one postsecondary institution.

**18. Why do the regulations require the secondary-postsecondary link?**

Tech Prep programs are designed to give students focus and relevancy by linking secondary and postsecondary programs. Students receive guidance in career options and choices. Students enroll in a coherent sequence of courses that starts in high school and leads to an associate degree or two year certificate in a technical field. That link requires a formal working relationship among secondary and postsecondary institutes.

**19. Who are the regional Tech Prep project coordinators?**

Each Tech Prep project coordinator is affiliated with one of the four state-supported postsecondary technical institutes. They are listed below:

Ron Rosenboom
Western South Dakota Tech Prep Project
Western Dakota Technical Institute
1600 Sedivy Lane
Rapid City, SD 57701
(605) 394-4034 FAX# (605) 394-1789

Will Short
Southeastern South Dakota Tech Prep Project
Southeast Technical Institute
2301 Career Place
Sioux Falls, SD 57107
(605) 331-7624 FAX# (605) 338-8305

Vicki Wiese
Central South Dakota Tech Prep Project
Mitchell Technical Institute
812 North Capital
Mitchell, SD 57301
(605) 995-3024 FAX# (605) 996-3299

Cathy Zubke
Northeast South Dakota Tech Prep Project
Lake Area Technical Institute
P.O. Box 730
Watertown, SD 57201
(605) 886-3045 FAX# (605) 886-3626

**20. Which South Dakota schools are currently involved in the Tech Prep projects?**

See **Appendix D**, page 22, for a listing of the South Dakota schools and multi-disticts involved in Fiscal Year 1994 Tech Prep projects.

**21. Can other schools join a Tech Prep consortium?**

Schools may join the established Tech Prep consortia during the development of the fiscal year projects submitted for approval in April of each year.

Each consortia school must submit a document entitled, *Tech Prep Terms of Participation,* which commits the school district to the development and implementation of Tech Prep.

**22. Are there plans to establish other Tech Prep consortiums in the future?**

No. The SD Office of Adult, Vocational and Technical Education determined that the four state supported postsecondary technical institutes provide the necessary link between secondary and postsecondary technical programs. Since transfer from technical programs to university programs is possible, the development of 4+2+2 Tech Prep programs is feasible.

**23. Can a non-consortia school participate in Tech Prep activities funded through an approved project?**

Yes - on a space available basis. Non-consortia schools may be required to pay participation costs. Contact the project coordinator listed in question #19 for additional information.

**24. What activities can be funded through Perkins, Title III, Part E?**

The four approved SD Tech Prep projects are utilizing funds to finance the following activities:

1. **Articulation development activities** - agreements which provide students with a non-duplicative sequence of classes beginning in high school and resulting in the completion of an associate degree or two year certificate at the postsecondary level.
2. **Curriculum design activities** - two years of classes during the 11th and 12th grades which have a common core of required courses in mathematics, science, communications, and technologies which lead to an associate degree or certificate in a specific career field.
3. **Curriculum development activities** - funding must be spent on the development of Tech Prep curricula.
4. **Inservice teacher training activities** - funding must be spent on inservice activities which instruct secondary and postsecondary teachers in the effective use of the Tech Prep curriculum.
5. **Counselor inservice training activities** - development of training which teaches counselors how to assist students enter and complete Tech Prep programs.
6. **Activities to assure equal access** for special populations - all students must have the same opportunity to enter Tech Prep programs.
7. **Preparatory service activities** - the design of services for students not enrolled in vocational education programs such as career and personal counseling and vocational assessment and testing.
8. Activities to involve universities, and business, industry and labor in the development of Tech Prep programs.

**25. Reference is often made to CORD/AIT applied academics. What is that?**

The Center for Occupational Research and Development **(CORD)** in Waco, Texas, developed applied curriculum materials for math, physics, and biology/chemistry courses.

The Agency for Instructional Technology **(AIT)** in Bloomington, Indiana, developed applied curriculum materials for communications.

The development of the materials was funded by a consortium of 45 states, including South Dakota, and two Canadian provinces.

**Applied Mathematics, Principles of Technology, Applied Communication, and Applied Biology/Chemistry** are integrated classroom-tested, competency-based materials that can be infused into existing courses or taught as stand-alone courses. The occupationally related, modular instructional units help students receive a rigorous education in a contextual manner which increases the probability of success by offering more motivation.

Studies show that applied courses, which teach essential academic content through a contextual process, can raise students' expectations, motivation, and achievement, while preparing students for employment and postsecondary education.

**26. What are the titles of the four CORD/AIT developed applied academic courses?**

The four courses are Applied Mathematics I and II, Principles of Technology (applied physics), Applied Biology/Chemistry, and Applied Communication.

**27. How do applied academics differ from traditional academics?**

The coursework utilizes a contextual approach which emphasizes vocational and occupational uses. Forty to fifty percent of the students' time is spent in laboratory and field activities similar to or related to those encountered at work, in the home, in the community, or in the environment. CORD/AIT developed applied academics materials provide a rigorous, integrated, hands-on, applications-oriented approach to teaching major academic and technical concepts and skills.

**28. How can my school acquire the CORD/AIT applied academics materials?**

The CORD/AIT materials are available on loan from the SD Curriculum Center. Specific information can be received from Judith Zikmund, Vocational-Technical Curriculum Information Specialist, SD Curriculum Center, 435 S. Chapelle, Pierre, SD, 57501-3210, 224-6287, FAX 605/224-8320.

The materials may also be ordered directly from CORD and AIT. See **Appendix E**, page 23, for address and order information.

**29. Are applied academics materials available from other sources?**

Yes. Most major textbook companies are developing applied materials. No recommendation can be made through the Office of Adult, Vocational, and Technical Education related to any materials other than the nationally field-tested CORD/AIT materials.

**30. Can Perkins funding be used to purchase CORD/AIT applied academic materials?**

Yes. According to the U.S. Department of Education, applied academic courses are eligible for funding through Title III, Part E if they are an integral part of the Tech Prep program. Any applied academics course funded through Perkins must be specifically related to the occupational skills being taught in the program.

The expenditure of Perkins funds for the purchase of applied academics materials must be specified and approved as part of the Request for Funding developed by the Tech Prep project coordinators. Funding approval through the SD Office of Adult, Vocational, and Technical Education is restricted to CORD/AIT developed applied academic materials.

**31. How are applied academics utilized in the schools?**

Schools have several options. It is suggested that each school select the option which best meets local needs. Among those options are:

1. **Stand-alone courses** - Applied Biology/Chemistry, Applied Communication, Applied Mathematics, and Principles of Technology are taught as separate classes using the materials designed by CORD/AIT.
2. **Integrated into existing academic courses** - modules are integrated into existing courses to increase the technical content of academic courses.
3. **Integrated into existing technical courses** - modules are integrated into existing courses to increase the academic content of technical courses.

The Office of Adult, Vocational & Technical Education recommends the integrated approach.

**32. Who should teach stand-alone applied academics courses?**

CORD/AIT recommends that an instructor certified/endorsed in the academic area teach the courses and/or the courses be team-taught by academic and technical instructors.

**33. Does an instructor need any specific training to teach CORD/AIT developed applied academics courses?**

Because the contextual-based approach is a marked departure from traditional academic approaches, ***inservice training is highly recommended.*** The Center for Occupational Research and Development provides on-going inservice opportunities at the Contextual Training Facility in Waco, Texas. Contact CORD for additional information. The South Dakota Office of Adult, Vocational, and Technical Education provides various inservice opportunities throughout the year. Contact Mike Ryan or Micky Wienk for information about state-sponsored inservice opportunities. Contact the Tech Prep project coordinators listed in question #19 to receive information about regional inservice training.

Technical assistance and inservice training for individual school counselors and school guidance and counseling programs are also available from Ken S. Kompelien, State Career Guidance Coordinator, South Dakota Curriculum Center, 435 S. Chapelle, Pierre, SD 57501-3210, (605)224-6287.

**34. The following three questions were submitted to the Deans of Academic Affairs at Black Hills State University, Dakota State University, Northern State University, South Dakota State University, and the University of South Dakota. Letters of response from South Dakota State University and Dakota State are found in Appendix M, page 33. Responses from the other universities are pending.**

a. Does your university provide teacher preparation in contextual-based coursework such as Applied Mathematics, Principles of Technology, Applied Biology/ Chemistry and Applied Communication?

b. Does your university provide teacher inservice opportunities in contextual-based coursework such as Applied Mathematics, Principles of Technology, Applied Biology/Chemistry and Applied Communication?

c. Which of the following contextual-based coursework does your university offer to students: Applied Mathematics, Principles of Technology, Applied Biology/Chemistry and/or Applied Communication?

35. **Are stand-alone applied academics courses accepted as graduation credit by the SD Office of School Accreditation?**

Yes, if taught by an instructor certified/endorsed in the specific academic area. For additional information contact Dennis Johnston, Director of Accreditation, Office of Accreditation/Administrative Services, (605)773-4770.

36. **Are stand-alone CORD/AIT developed applied academics courses taught by an instructor certified/endorsed in the specific academic area acceptable as university entrance requirement courses?**

This question has been submitted to Dr. Howell Todd, Executive Director of the South Dakota Board of Regents, 207 East Capitol, Pierre, South Dakota 57501, Phone: (605)773-3455, FAX: (605)773-5320. A response is pending.

37. **Are algebra, physics, biology, chemistry, and language arts courses that integrate CORD/AIT developed applied academic course modules into the standard curriculum and taught by an instructor certified/endorsed in the specific academic area and/or team taught by academic and technical instructors acceptable as university entrance courses?**

Many school administrators view the purchase of the applied academic course material the same as the purchase of any other textbook material. While the decision to purchase and incorporate material into existing courses is a local decision, this question has been submitted to Dr. Todd for consideration. A response is pending.

38. **Does the CORD developed applied physics course, *Principles of Technology (PT)*, taught by a certified/endorsed science instructor and/or team taught by a certified/endorsed science instructor and technical instructor meet university entrance requirements as a lab science course?**

This question has been submitted to Dr. Howell Todd, Executive Director of the South Dakota Board of Regents. A response is pending. See **Appendix F**, page 25, for a sample listing of U.S. universities accepting PT as a university entrance lab science course.

39. **The Carl D. Perkins Vocational and Applied Technology Act of 1990 was passed during the Bush Administration. Can we expect continued federal support for Tech Prep during the Clinton presidency?**

President Clinton and his administration have been strong supporters of technical education, Tech Prep, and the integration of technical and academic education. See **Appendix G**, page 26, for a description of support among those serving in the Clinton administration.

40. **What role does the SD Office of Adult, Vocational, and Technical Education staff play in the development of Tech Prep programs?**

Tech Prep activities funded through Perkins, Title III, Part E, are limited to secondary and postsecondary institutions that have state approved vocational-technical programs. The state staff will provide technical assistance to school personnel and instructors of approved programs to design Tech Prep programs, improve curriculum, integrate technical and academic content, develop staff inservice, develop statewide curricula guidelines, develop statewide articulation agreements, and other necessary activities. See **Appendix H**, page 27, for a listing of personnel with the SD Office of Adult, Vocational, and Technical Education.

41. **Do school counselors really need to be involved in Tech Prep?***

Yes, they do! Guidance and counseling are vitally important components in making Tech Prep a successful initiative. A cornerstone of Tech Prep is career guidance and counseling, therefore, the counselor's role in facilitating career development and planning is critical in the process of implementing Tech Prep.

42. **What specific areas should guidance counselors focus on when trying to implement Tech Prep?***

Few decisions made in life are as important as the selection of an occupation or career. It influences income and standard of living, personal and social identity, and affects self-esteem and educational attainment. Unfortunately, too many young people have left their vocational choice to chance or made it with inadequate information. Counselors must inform students of the changing workforce and job trends and encourage them to consider a variety of educational pathways, not only the traditional 4-year college path.

Counselors must also help students understand that employment in America is in the process of a transformation that is changing where work is performed, who performs it, and how it is performed. Too often counselors, educators, and parents have encouraged students to pursue a bachelor's degree with the notion that it represents the exclusive degree of rigor and excellence. Little attention has been given to the fundamental changes that have occurred in the workplace as a result of technology and the kinds of skills and educational requirements that are needed. Associate degrees from a technical institute or community college, and apprenticeships provide excellent educational and employment opportunities. These options can no longer be ignored.

The South Dakota Office of Adult, Vocational, and Technical Education, in collaboration with the South Dakota School Counselors Association (SDSCA), has developed the South Dakota Comprehensive Guidance and Counseling program model that provides the blueprint for more effective and efficient school guidance and counseling programs in South Dakota. Additional information on the South Dakota Comprehensive Guidance and Counseling Program Model can be obtained by contacting Ken S. Kompelien, State Career Guidance Coordinator, South Dakota Curriculum Center, 435 S. Chapelle, Pierre, SD 57501-3210, (605)224-6287.

43. **We've been hearing a lot about school restructuring and modernization, is there a need for me to restructure my school guidance and counseling program?***

Yes, there is. School counselors have traditionally been cast in roles which are largely reactive, administratively determined, and dedicated to many non-guidance functions. The time has come to acknowledge that school counseling is an important and integral part of the total educational program with the potential to contribute to the full development of South Dakota's students. Developmental, proactive school guidance and counseling programs have the potential for accomplishing this goal in pursuit of excellence in education.

44. **Where can I find career guidance and Tech Prep resources in South Dakota?***

The South Dakota Curriculum Center has a large number of helpful career guidance videos and books that are available for loan.

45. **Where can I get additional information about Tech Prep, applied academics, and recently published educational literature?**

Request the bibliography entitled, *Tech Prep Resources*, from the SD Curriculum Center for a listing of Tech Prep specific textbooks, curriculum materials, and video tapes.

The Center for Occupational Research and Development (CORD) and Agency for Instructional Technology (AIT) applied academics materials and videos are available on loan from the Curriculum Center. See **Appendix I**, page 28, for a bibliography of suggested reading. For more information, contact:

Judith Zikmund, Information Specialist
Vocational Technical Curriculum Materials
South Dakota Curriculum Center
435 South Chapelle
Pierre, South Dakota 57501-3210
(605) 224-6287 FAX# (605) 224-8320

* Questions 41-44 were prepared by Ken Kompelien, State Career Guidance Coordinator, South Dakota Curriculum Center, 435 S. Chapelle, Pierre, SD, 57501-3210, (605)224-6287

**46. What services are available through the South Dakota Curriculum Center?**

The South Dakota Curriculum Center is a great resource. It is worth your time to visit or telephone the Center to become familiar with the materials and resources available to you. Dr. Wendy Bonaiuto, Judith Zikmund, and support staff make the Center very "user friendly."

The Curriculum Center is a clearing house of educational materials for all academic and technical disciplines. Textbooks, video tapes, and other curriculum materials are available on loan. You may request a particular title or a topic search.

**47. Is Tech Prep a conference theme at any national educational seminars?**

Yes, Tech Prep is receiving a great deal of exposure as a national educational restructuring initiative. Tech Prep sessions are scheduled at most major educational seminars throughout the nation. Conferences, seminars, and inservices with the Tech Prep theme are being held in every state. You can receive information about state level activities by contacting the Tech Prep Coordinator at each state Department of Education.

The National Tech Prep Network holds an annual conference each year. The 1993 NTPN Conference will be held September 27-28, 1993, in Atlanta Georgia. Contact NTPN at 1-800-972-2766 or Micky J. Wienk, (605)886-5872, Ext. 288, for more information.

**48. Is Tech Prep a conference theme at state-level educational seminars in South Dakota?**

SD has held three state Tech Prep Conferences. A Tech Prep Summer Institute was held June 14-18, 1993, in Sioux Falls, SD Topics included the rationale of Tech Prep, applied academics, integration of academic and technical content, assessment and evaluation, and development and implementation. Conferences of this type will be scheduled during FY 94.

Tech Prep is an important edcuational restructuring effort in South Dakota. The concept is discussed in many settings. Discussions about Tech Prep have been held at several conference such as the Educational Modernization Conference, National Science Foundation-Statewide Systemic Initiative Conference, STEP Conference; Associated School Boards-School Administrators-South Dakota Education Association Conference, and SD 2000 Conference. For information regarding conference and inservice activities, contact the project coordinators listed in question #19, Micky J. Wienk (886-5872 ext. 288) or Mike Ryan (773-4735).

**49. I hear reference made to the SCANS Report. What is that?**

Reference is made to the SCANS Report (The Secretary's Commission On Achieving Necessary Skills) in many articles and presentations. Former U.S. Secretary of Labor Lynn Martin established the Commission to examine the demands of the workplace and to determine whether our young people are capable of meeting those demands.

A report entitled SCANS REPORT - WHAT WORK REQUIRES OF SCHOOLS - The Secretary's Commission On Achieving Necessary Skills was generated.

The report affirms that good jobs will increasingly depend on people who can put knowledge to work. Numerous studies completed by the commission report that more than half our young people leave school without the knowledge or foundation required to find and hold a good job. These young people will pay a very high price. They face the bleak prospects of dead-end work interrupted only by periods of unemployment.

It is essential that **all** students acquire the academic and technical skills that the 21st century workplace requires. The basic knowledge, identified by the SCANS report, is made up of five competencies and a three-part foundation of skills and personal qualities that are needed for solid job performance. See **Appendix J**, page 30, for a listing of the five competencies and three-part foundation of skills established in the SCANS report.

A copy of the SCANS report can be checked-out from the Curriculum Center or purchased from the following:

SCANS REPORT - WHAT WORK REQUIRES OF SCHOOLS
The Secretary's Commission On Achieving Necessary Skills
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210
Telephone: 1-800-788-SKILL

**50. I also hear reference made to *America's Choice, The Forgotten Half, The Neglected Majority, and Saving America's Children.* What are these documents and how can I access them?**

Each of these documents affirms the need for educational change. See **Appendix I**, page 28, for a bibliography of these documents and other recommended reading. Contact Judith Zikmund at the South Dakota Curriculum Center to check-out the materials.

**51. I hear reference made to AVA, SDVA, and NTPN. What do these initials mean?**

AVA is the American Vocational Association, SDVA is the South Dakota Vocational Association, and NTPN is the National Tech Prep Network. See **Appendix K**, page 31, for additional information about these associations.

**52. What are the nine Tech Prep projects designated as demonstration projects by the U.S. Department of Education and what services will they provide?**

The U.S. Department of Education has awarded nine grants to demonstrate successfully designed, established, and operating Tech Prep education projects. These projects, most of which will begin project activities in January, 1993, will:

1. Disseminiate information to improve the training of teachers, other instructional personnel, counselors, and administrators who are needed to carry out Tech Prep education programs;

2. Provide resources, materials, technical assistance, inservice training, and other forms of professional development to help others replicate successful Tech Prep programs;

3. Conduct an independent evaluation of grant activities based, in part, on student achievement, completion, and placement rates in the Tech Prep education programs being demonstrated.

See **Appendix L**, page 32, for that listing.

**53. Who is responsible for Tech Prep at the federal level?**

Five individuals in the U.S. Department of Education, Office of Vocational and Adult Education provide technical assistance in the development and implementation of Tech Prep.

| | |
|---|---|
| Nancy Smith Brooks | 202-205-8269 |
| Ron Castaldi | 202-205-9444 |
| Rich DiCola | 205-205-9962 |
| Gisela Harkin | 202-205-9441 |
| Mark Schwartz | 202-205-9422 |

They may be contacted at:

U. S. Department of Education
ED/OVAE/DPN/PIB
400 Maryland Avenue, S.W.,
Switzer Building, Room 4512
Washington, D.C. 20202-7242

**54. Who is the state-level person supervising the development of Tech Prep programs?**

Micky J. Wienk, Statewide Tech Prep Coordinator
Office of Adult, Vocational, and Technical Education
Lake Area Technical Institute
230 11th Street NE
P.O Box 730
Watertown, South Dakota 57201-0730
Phone: (605) 886-5872, Ext 288
FAX: (605) 886-2824

**APPENDIX A**
(See question 4)

**STUDY RESULTS CONTRIBUTING TO CONGRESSIONAL CONCERN**

- U.S. Literacy Rates of 18 - 24 year olds as compared to other nations (U.S. Dept of Education):
  1969 - 1st in world  1979 - 21st in world  1989 - 49th in world

- The U.S. ranks 18th out of 23 other industrialized countries in quality of K-12 education. (1990 World Competitiveness Report)

- The dropout rate in America's secondary schools is 4 times higher than any other industrialized nation. (Saving America's Children, 1992)

- The college dropout rate is 58% in U.S.; 11% in other industrialized nations. (Saving America's Children, 1992)

- 60% of women over the age of 16 will be working outside the home in the year 2000. (U.S. Dept of Labor)

- 90% of all scientific knowledge has been generated within the last ten years; that pool of knowledge will double with the next three to five years. (U.S. Dept of Labor)

- By the year 2000, 20% of careers will require a 4-year degree; 80% will require postsecondary studies beyond high school, but less than a baccalaureate degree. (U.S. Dept of Labor and Education)

- Today's youth need to be lifelong learners since the average worker in the 21st century will change careers 7-9 times. (U.S. Dept of Labor)

- 46% of high school graduates in 1989 were qualified for only 2% of entry level positions in today's workplace. (Saving America's Children, 1992)

- U.S. employers estimate remediation and training that could be done at the secondary and postsecondary level costs business and industry $210 billion annually.

- Employment statistics for the U.S. (Dept of Labor):
  1890 - 85% of workforce employed in production/agriculture industries
  1989 - 3% of workforce employed in production/agriculture industries

  1950 - 73% of workforce employed in production/manufacturing
  2000 - 2% of workforce will be employed in production/manufacturing

  1989 - 44% of workforce employed in service sector
  2000 - % will dramatically decrease while required skill level will dramatically increase

1989 - 35% of workforce employed in information sector
2000 - 44% of workforce will be employed in information sector which will require skills in collecting, analyzing, synthesizing, storing and retrieving data.

- The workplace of the future requires the ability to apply technical reading and writing skills. U.S. schools do not teach those skills. (Dr. Willard Daggett, International Center for Leadership in Education, 1992)

  Three distinct types of reading:
  *__Reading for personal response__ -- taught almost exclusively in U.S. school systems
  *__Reading for information and reading for critical analysis__ - the two types of reading used most often in the workplace, but taught least often in U.S. school systems

- Business/Industry choices for 1990-2000 with current conversion statistics (U.S. Dept of Labor):

  1. Convert to new workplace organization using high technology equipment (14% of U.S. companies have converted)
  2. Transfer production to low skill/low wage countries - (16% of U.S. companies have transferred production)
  3. Retain current workplace organization and technology but convert to lower wages and benefits (70% of US companies have converted to lower wages and benefits)

- 1989-90, U.S. industries hired over one million foreign-born and educated young people for jobs in U.S. who had the equivalent of a high school degree to fill top-paying entry level positions. These young people understood information systems and technical applications. U.S. companies could not locate U.S. students with equivalent skill levels. (Saving America's Children, 1992)

- Average hourly wage and trade balance in millions of dollars (Bureau of Labor Statistics and International Monetary Fund):

| | | |
|---|---|---|
| Germany | $18.03 hourly wage | $61.484 Positive Trade Balance |
| Sweden | $16.82 hourly wage | $4.013 Positive Trade Balance |
| Denmark | $15.86 hourly wage | $0.614 Positive Trade Balance |
| U.S. | $13.92 hourly wage | $132.948 **Negative** Trade Balance |
| Japan | $12.72 hourly wage | $76.898 Positive Trade Balance |

- Annual Growth in worker compensation as compared with other industrialized nations. (Bureau of Labor Statistics, 1990)

| | | | |
|---|---|---|---|
| U.S. | 6.2% | Japan | 11.6% |
| Canada | 6.8% | Pacific Rim | 14.0% |
| Europe | 8.3% | | |

## APPENDIX B
(See question 5)

## SOUTH DAKOTA TECH PREP INITIATIVE
## VISION STATEMENT

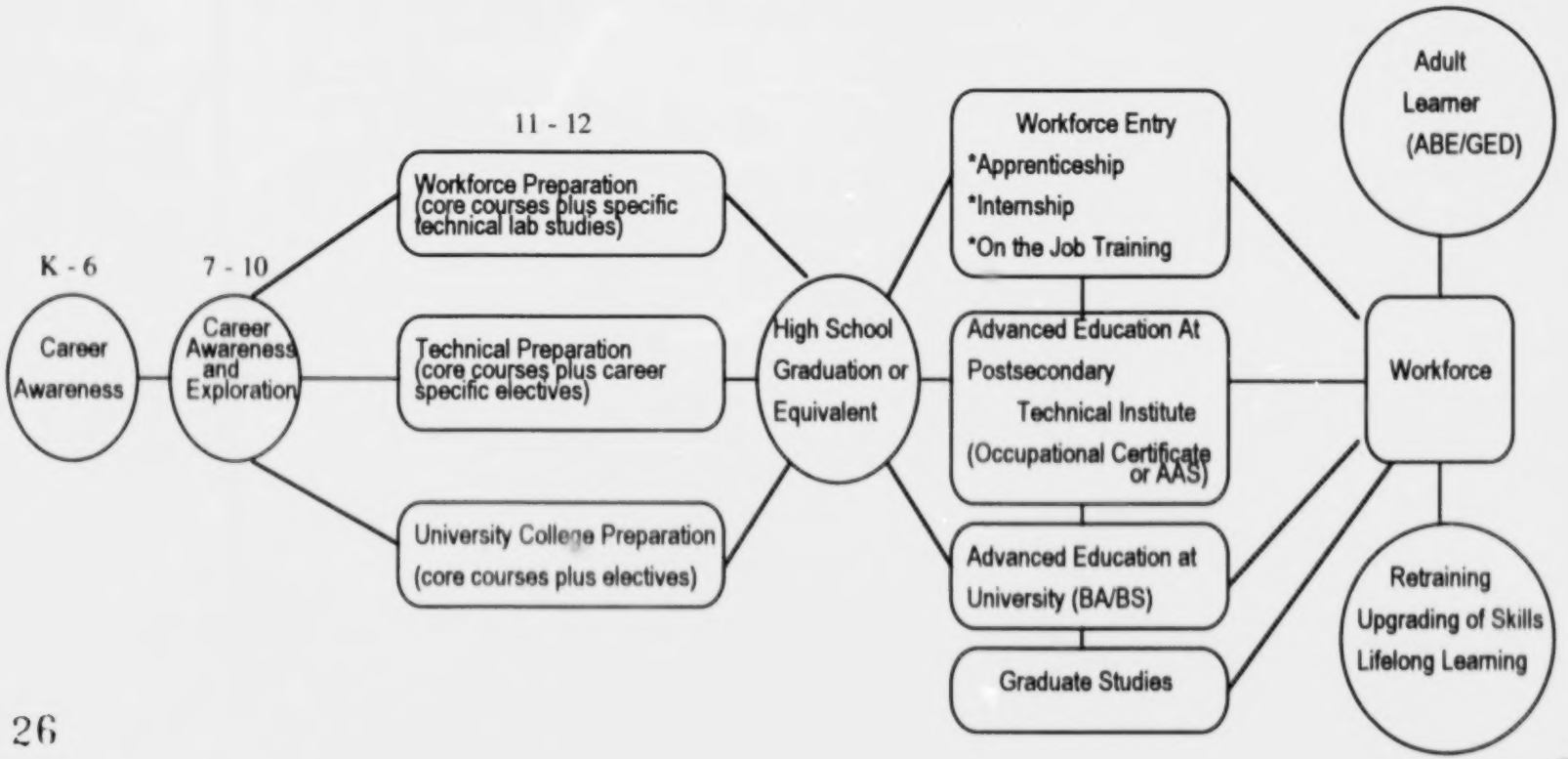
By the year 2000, all South Dakota students will have access to a Technical Preparation Project that will prepare them to live in a highly technical world by:

- providing an educational delivery system which is competency/outcome based, where expected student competencies/outcomes have been identified, and where emphasis is placed on the student's ability to perform tasks as well as to understand theory and process;
- promoting educational strategies which include interdisciplinary planning, technical/academic team teaching, and application-based instruction;
- promoting learning activities which emphasize problem-solving, critical thinking, teamwork, and cooperative skills;
- providing rigorous studies in applied physics, biology, chemistry, communication, and mathematics;
- utilizing community and school representatives to determine local education priorities and needs which meet national education and industry standards;
- involving local business, industry, labor groups, service providers, and educators in the planning, delivery, and evaluation of the curriculum;
- promoting the development of individual plans of study appropriate to each student's career interest and post-secondary plans;
- providing a curriculum that encourages a smooth transition from high school to employment and/or post-secondary education;
- developing articulation agreements between secondary schools and post-secondary institutes which include provisions for advanced placement and/or dual credit;
- increasing the number of high school graduates prepared for entry into technical occupations;
- increasing the number of high school graduates who continue their education at the post-secondary level;
- promoting staff development activities related to Tech Prep project rational, strategies, design, and implementation, expansion, and evaluation.

## SOUTH DAKOTA TECH PREP INITIATIVE
## MISSION STATEMENT

The mission of the South Dakota Tech Prep Initiative is to prepare secondary and post-secondary students to live and work in the highly technical world of the 21st century through a rigorous education program that meets the performance standards of business and industry and provides the basis for the transition to additional education and/or the world of work.

**South Dakota Technical Preparation Model - Pathway to Technology Careers & Lifelong Learning**



## SOUTH DAKOTA TECH PREP INITIATIVE - PHILOSOPHY

- All students must have the opportunity and encouragement to complete high school and post-secondary and/or apprenticeship programs.

- All students must demonstrate competencies in the basic skills of reading, writing, mathematics, speaking, listening, logic, and creativity enabling them to become responsible citizens, productive employees, and lifelong learners.

- All students must excel in the application of communication, math and science skills to be prepared for the challenges of a highly technical workplace and society.

- All students must have access to an educational program designed to provide the skills and competencies necessary to succeed in the workplace of the 21st century. Academic and technical educators, secondary and post-secondary educators, and business and industry personnel must be active partners in identifying those skills and competencies and designing pertinent coursework.

- All students must be made aware that a technical education provides unique career options and is a first class educational choice.

- All students must have access to guidance in education and career choices that reflect the changes of the 21st century.

## SOUTH DAKOTA TECH PREP INITIATIVE
## STUDENT EXIT OUTCOMES

**An empowering colleague** who demonstrates the ability to develop and maintain positive personal and professional relationships, work on teams, teach others, serve customers, provide leadership, participate in negotiations, and work well with individuals from culturally diverse backgrounds.

**A self-directed producer** who demonstrates a strong work ethic, applies problem-solving skills, shares the responsibility of completing a task, contributes to a collaborative effort, and produces a product/service of the highest standard.

**A responsible citizen** who participates in activities of the democratic society and contributes time, energy, and talents to improve the welfare of others and the quality of life for all members of the community and region in which they reside.

**A global steward** who accepts uniqueness, surveys resources, adapts to and improves changing environments, appreciates quality, bridges cultural differences and envisions the future.

**An accepting individual** who demonstrates the ability to identify and appreciate cultural differences and diversity in life and enjoys the enrichment it adds to life and work.

**A self-directed learner** who demonstrates the ability to identify, access, integrate, and use available resources and information to reason, make decisions, and solve complex problems in a variety of contexts.

**A self-actualizing person** who organizes positive personal activities, maintains respect for others, and develops a balanced approach to life including being satisfied, interdependent, and confident.

## APPENDIX C
(See question 7)

**Examples of other states' approaches to implementation of Tech Prep:**

Arkansas:

- enacted legislation requiring a Tech Prep core curriculum be implemented by 1993
- recommended that restructuring take place around two educational options - college preparation and technology preparation

Oregon:

- made Tech Prep part of an ambitious plan to reform and restructure the education system based on a skills-enhanced approach

Texas:

- made Tech Prep part of plans to reform the total educational system
- state-mandated graduation guidelines endorsed the Tech Prep path

Wisconsin:

- required each school board to establish a Tech Prep program in each public high school in coordination with district vocational, technical, and adult education directors

New York:

- legislated the Work Force Preparation Programs which essentially mirrored the federal Tech Prep legislation at the state level

South Carolina:

- amendment to state plan called Preparation for the Technologies
- legislation calling for a restructuring of the Department of Education to transform it from a regulatory agency to a service agency as part of the state's Total Quality Education effort

Vermont:

- major reform of educational system, including an expansion of vocational-technical education
- general education option was eliminated in high schools
- a certificate of initial mastery implemented
- proficiency certificates based on performance assessments linked to national standards were established for technical students

**APPENDIX D**
**(See question 20)**

## SOUTH DAKOTA SCHOOLS INVOLVED IN TECH PREP PROJECTS

**Southeast Tech Prep Project - Southeast Technical Institute:**

Lennox, Flandreau, Oldham-Ramona, Chester
Madison, Dell Rapids, Sioux Falls, Garretson
Beresford, Vermillion, Baltic
West Central/Hartford, Turnabout/Sioux Falls
Aim High-Strive High/Dell Rapids

**Mitchell Area Tech Prep Project - Mitchell Technical Institute:**

Avon, Wagner, Winner, Mitchell, Wessington Springs

**Northeast Tech Prep Project - Lake Area Technical Institute:**

Watertown High School

*East Central Multi-District:* Brookings, Sioux Valley, Deubrook/White
Estelline, Elkton, Deuel/Clear Lake

*Hub Area Multi-District:* Aberdeen Central, Aberdeen Roncalli, Warner
Frederick, Northwestern/Mellette

*Lake Region Multi-District:* Webster, Waubay, Roslyn, Bristol

*Lake Area Multi-District:* Watertown, South Shore, Waverly
Florence, Hamlin/Hayti, Henry, Grant-Deuel/Revillo, Castlewood

*Northeast Multi-District:* Sisseton, Veblen, Summit
Browns Valley, Wilmot

**Western Dakota Tech Prep Project - Western Dakota Technical Institute**

Douglas, Belle Fourche, Wall, Pierre, Sturgis, Rapid City

*Northwest Area Schools Multi-District:* Dupree, Faith, Isabelle
Stanley Co./Ft. Pierre, Timberlake, McIntosh, McIntosh, McLaughlin
Selfridge, ND

**APPENDIX E**
(See question 28)

**AGENCY FOR INSTRUCTIONAL TECHNOLOGY**
Box A
Bloomington, IN 47402
1-800-457-4509

APPLIED COMMUNICATION
Price per module:

| | |
|---|---|
| Instructor's Guide | $5.75 |
| Student Texts | 3.00 |

PRINCIPLES OF TECHNOLOGY
Price per unit:

| | |
|---|---|
| Instructor's Guide | $23.50 |
| Student Text | 3.25 |
| Student Resource Book (one/course) | 3.25 |

**CENTER FOR OCCUPATIONAL RESEARCH AND DEVELOPMENT**
CORD COMMUNICATIONS
Attention: Customer Relations
PO Box 21206
Waco, Texas 76702-1206
1-800-231-3015

APPLIED MATHEMATICS
Price per unit:

| | |
|---|---|
| Instructor's Guide | $9.50 |
| Units 30 & 31 | 24.50 |
| Student Text | 1.25 |
| Student Resource Book (one/course) | 5.00 |

APPLIED BIOLOGY/CHEMISTRY
Price per unit:

| | |
|---|---|
| Instructor's Guide | $32.50 |
| Student Text | 4.50 |
| Teaching Resources Book (one/course) | 32.50 |

Samples of all applied academic print and video materials available for loan.
To preview, contact Judith Zikmund
South Dakota Curriculum Center, 435 South Chapelle, Pierre, SD 57501-3210
Phone 224-6287

All video programs will be duplicated on blank video tapes sent to the Curriculum Center

## APPLIED ACADEMICS

APPLIED COMMUNICATION:

- 15 modules designed to help students develop and refine career-related communication skills
- taught as a stand-alone course, infused into vocational programs or used to broaden the language arts or English programs
- lessons 1 through 7 of each module provide instruction in communication skills
- lessons 8 through 10 of each module feature activities applied to the vocational areas of interest

APPLIED MATHEMATICS

- 36 unit stand-alone or supplemental course that makes mathematics relevant by showing how the skills are used in the workplace
- hands-on problem-solving method is used
- high school course where students solve problems using geometry, statistics, simple trigonometry, and algebraic formulas
- introductory lessons in each unit provide basic information in that unit's mathematics concept
- instructor chooses problems related to student's vocational study
- can be either a 2 year or 2 1/2 year course

PRINCIPLES OF TECHNOLOGY:

- 14 units of applied physics
- two year course with each unit covering a separate principle in the four energy systems (mechanical, fluid, thermal, and electrical) that make up both simple and complex technological devices and equipment
- units also cover mathematics needed to understand and apply the principles

APPLIED BIOLOGY/CHEMISTRY:

- study of biology and chemistry is treated as a unified domain of subject matter
- unique high school course using an applications-oriented, hands-on approach to biology and chemistry
- developed to answer the increased need for knowledge of biology and chemistry concepts required by the technical occupations of today and the future

**APPENDIX F**
**(See question 38)**

**SAMPLE LISTING OF**
**U.S. UNIVERSITIES ACCEPTING PRINCIPLES OF TECHNOLOGY AS A UNIVERSITY ENTRANCE LAB SCIENCE COURSE**

ALABAMA
- Alabama State University
- Troy State University

COLORADO
- Colorado State University

GEORGIA
- University of Georgia
- Georgia Tech

ILLINOIS
- Illinois State University

IOWA
- Iowa State University

MASSACHUSETTS
- Massachusetts Institute of Technology
- Northeastern University
- Worcester PolyTech Institute

NEVADA
- University of Nevada, Las Vegas
- University of Nevada, Reno

NEW MEXICO
- University of New Mexico

TENNESSEE
- East Tennessee State University
- Memphis State University
- Middle Tennessee State University
- Tennessee State University
- University of Tennessee at Chattanooga
- University of Tennessee at Knoxville
- University of Tennessee at Martin

TEXAS
- Baylor University
- Texas A & M
- Texas Tech

UTAH
- Weber State College

VIRGINIA
- Old Dominion University

WASHINGTON
- University of Washington
- Washington State University
- Central Washington University
- Eastern Washington University
- Western Washington University
- Evergreen State College

## APPENDIX G

(See question 39)

**Personnel serving in Clinton Administration familiar with/supportive of Tech Prep:**

**President Clinton**

- dedicated to creating high tech jobs, national education standards, international trade, and global competition
- implemented recommendation of Arkansas Education Committee regarding Tech Pep while Governor of Arkansas
- increased funding for technical education and supported development of Tech Prep programs
- backed laws requiring a core curriculum with the same number of academic requirements as the college prep curriculum plus four vocational major classes and two related vocational classes
- 150+ school systems implemented Tech Prep during the Clinton administration

**Hillary Rodham Clinton**

- discussed role of technical education in preparation of high tech workforce as speaker at 1992 AVA Conference
- Chair of Arkansas Education Committee that recommended new standards for high schools including a requirement that each high school offer at least three occupationally specific technical education courses
- Implementation resulted in a 43% increase in enrollment in technical courses

**Secretary of Education Richard Riley**

- implemented a comprehensive education reform program while governor of South Carolina
- served as Chairman of the Southern Region Educational Board and assisted in drafting CDP legislation
- dedicated to developing new approaches for preparing youth for productive employment in high-skill, high wage jobs
- proposes a collaborative relationship between Tech Prep and Youth Apprenticeship

**Deputy Secretary of Education Madeleine M. Kunin**

- former Governor of Vermont
- expanded Vocational Technical Education in Vermont
- eliminated general education tract in all high schools
- implemented a certificate of initial mastery and proficiency certificates based on performance assessments

**Secretary of Labor Robert Reich**

- author of *The Work of Nations* - described his prescription for making American industry more competitive by providing for a highly skilled workforce
- pledged to make the Department of Labor the Department of the American Workforce
- priorities include school-to-work transitions, certification and skill standards, and life-long learning
- places particular stress on the objective of developing a path to good jobs for the 75% of American youth who do not obtain a 4-year baccalaureate degree

**Presidental Advisor, Ira Magaziner**

- closely identified with workforce development issues
- Chairman of Commission on the Skills of the American Workforce which produced *America's Choice, High Skills or Low Wages*
- advisory duties include apprenticeship, worker training and school reform

## APPENDIX H
(See question 40)

### OFFICE OF ADULT, VOCATIONAL, AND TECHNICAL EDUCATION
700 GOVERNORS DRIVE
PIERRE, SD 57501-2291
TELEPHONE: (605) 773-3423 FAX: (605) 773-6139

Larry P. Zikmund, State Director- 773-4527

Larry Nelson, Assistant Director- 773-4773

Brenda Bak, State Supervisor- 773-4738
Consumer and Homemaking Education
Occupation Home Economics

Elaine Kohler, State Supervisor - 773-4747
Equity, Single Parent/Displaced
Homemaker, Single Pregnant Women

Bob Bell, Assistant Supervisor - 688-4380
Agricultural Education
Wenona Hall
South Dakota State University
Brookings, South Dakota 57007-0507

Dave Merrill, State Supervisor - 773-4740
Trade and Industrial Education
Health Occupations, VICA

Jeff Beringer, State Supervisor - 773-4673
Business and Office Education
Marketing Education

Ed Mueller, State Supervisor - 773-4726
Agricultural Education,
Adult Business and Industry Training, FFA/PAS

Gene Dickson, State Supervisor - 773-4716
Literacy and Community Education
ABE/GED

George Rockhold, State Supervisor - 773-4736
Technology Education
Data Collection and Statistics

Michael Ryan, State Supervisor - 773-4735
Staff Development
Vocational Teacher Certification
Office of Civil Rights

**Adult, Vocational, and Technical Education Resource and Service Personnel:**

Ken Kompelien, State Coordinator - 224-6287
Vocational/Career Guidance Counselors
South Dakota Curriculum Center
435 South Chapelle
Pierre, SD 57501-3210

Micky J. Wienk, Statewide Coordinator - 886-5872,
South Dakota Tech Prep Initiative
P.O. Box 730
Lake Area Technical Institute
Watertown, South Dakota 57201-0730

Dan Muck, Statewide Coordinator - 995-3024
Telecommunications/Tech Net System
Mitchell Area Technical Institute
821 North Capital Street
Mitchell, South Dakota 57301

Judith Zikmund, Information Specialist - 224-6287
Vocational-Technical Curriculum
South Dakota Curriculum Center
435 South Chapelle
Pierre, SD 57501-3210

## APPENDIX I

(See question 45 & 50)

## BIBLIOGRAPHY OF SUGGESTED READING


American Vocational Association, (1990). THE AVA GUIDE TO THE CARL D. PERKINS VOCATIONAL AND APPLIED TECHNOLOGY EDUCATION ACT OF 1990. American Vocational Association, 1410 King Street, Alexandria, Virginia 22314.

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**APPENDIX J**
( See question 49)

**Five Competencies and Three-Part Foundation of Skills**
**as Established by the Secretary's Commission on Necessary Skills**
**The SCANS Report**

**COMPETENCIES** - effective workers can productively use:

- Resources-allocating time, money, materials, space, and staff;
- Interpersonal Skills-working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds;
- Information-acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information;
- Systems-understanding social, organizational, and technological systems, monitoring and correcting performance, and designing or improving systems;
- Technology-selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies.

**THE FOUNDATION** - competence requires:

- Basic Skills-reading writing, arithmetic and mathematics, speaking, and listening;
- Thinking Skills-thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn, and reasoning;
- Personal Qualities-individual responsibility, self-esteem, sociability, self-management, and integrity.

**APPENDIX K**
(See question 51)

AVA — American Vocational Association
1410 King Street
Alexandria, VA 22314

Publication: Vocational Education Journal
Published eight times a year
Subscription: $28.00 per year

NTPN — National Tech Prep Network
P.O. Box 21689
Waco, Texas 76702
1-800-972-2766

Publication: NTPN Connections

SDVA

South Dakota Vocational Association
Jerry Biedenfeld, Executive Secretary
P.O. Box 7077
Pierre, SD 57501
605/224-2540

Don Josko, President
Southeast Technical Institute
2301 Career Place
Sioux Falls, SD 57107
605/331-7624

The South Dakota Vocational Association is a professional development organization comprised of vocational instructors and administrators from South Dakota. Improving vocational education in South Dakota is a priority of SDVA. Membership is comprised of over 450 educators and administrators in the areas of Administration, Agriculture, Business, Guidance, Health Occupations, Home Economics, Marketing, Special Populations, Technology and Trade & Industry.

Specific services of SDVA include:

- Professional development training at the annual state conference and trade show
- Quarterly publication of the SDVA Viewpoint Newsletter covering current trends in vocational education
- Career networking
- Special workshop training on contemporary vocational-technical issues
- Leadership training through the State Leadership Policy Program
- Stipends for attending American Vocation Conference
- Sponsorship of annual legislative day to familiarize legislators and other officials about current trends in vocational-technical education

## APPENDIX L
(See question 52)

### Model Tech Prep Education Projects

East San Gabriel Regional Occupational Program, West Covina, California
Project Director: Laurel Adler, 818-960-3625

Charles County Community College, LaPlata, Maryland
Project Director: Mary Byrski, 301-934-2251, Ext. 433

Richmond County Schools, Hamlet, North Carolina
Project Director: Myrtle D. Stogner, 919-582-7187

Francis Tuttle Vo-Tech Center, Oklahoma City, Oklahoma
Project Director: Carla High, 405-722-7799, Ext. 380

Mt. Hood Community College, Gresham, Oregon
Project Director: Jack Miller, 503-667-7313

Community College of Rhode Island, Warwick, Rhode Island
Project Director: Judith Marmaris, 401-825-2143

Tri-County Technical College, Pendleton, South Carolina
Project Director: Diana Walter, 803-646-8361

Center for Occupational Research and Development, Waco, Texas
Project Director: Maurice Dutton, 817-772-8756

Seattle Public Schools, Seattle, Washington
Project Director: Gerald Butts, 206-281-6282

**APPENDIX M**
(See question 34)
Letters of Response from South Dakota Universities

DAKOTA STATE UNIVERSITY
Madison, South Dakota 57042-1799
605/256-5112

June 25, 1993

Micky Wienk
Tech Prep Coordinator
Lake Area Technical Institute
PO Box 730
Watertown, SD 57201-0730

Dear Mr. Wienk:

Thank you for the opportunity to respond to and provide information to the document in preparation entitled - "Frequently Asked Questions About Tech Prep". At the present time, Dakota State University does not offer any coursework directed toward specific Applied or Contextual based coursework as I understand the meaning of the questions posed.

However, I hasten to point out that Dakota State University applies the integration of computer/information systems technology throughout its curriculum offerings in support of its legislated mission. This philosophy and practice of integration of theory with application is also reflected in each of the major areas of study offered by Dakota State University. This continuum of blending of theory and application culminates in a capstone experience for each of the majors. Having experienced their education matrix as students, DSU graduates should be well suited to functioning in educational systems that embrace a similar philosophy. Likewise, those who are accustomed to such educational approaches should find ready compatibility with DSU's curriculum.

Thank you.

Sincerely,

Dr. David E. Cook
Academic Vice President and Provost

DEC:mrc

c: Dr. Larry Zikmund
Dr. Tunheim
Academic Council

SDSU

Box 2201
South Dakota State University
Brookings, SD 57007-2098

Vice President for Academic Affairs
(605) 688-4173

June 23, 1993

Micky Wienk
Tech Prep Coordinator
Lake Area Vocational Technical Institute
P.O. Box 730
Watertown, South Dakota 57201-0730

Dear Micky:

Thank you for sharing a draft copy of "Frequently Asked Questions About Tech Prep" with us. We appreciate the opportunity to provide you additional materials.

The Office of Academic Affairs has prepared the following responses to questions one, two and three in Larry Zikmund's letter of June 9, 1993. I should point out that the College of Education and Counseling's response also relates to teacher preparation in both Agricultural Education and Home Economics Education.

**QUESTION 1** - Does our university provide teacher preparation in contextual-based coursework such as Applied Math, Principles of Chemistry, Applied Biology/Chemistry- and Applied Communications?

In the College of Education and Counseling the course "Computers in Teaching" is entirely contextual-based with all instruction focusing upon applications of technology as it would be used by teachers and students. All teacher education students take this course.

The Agricultural Education courses "Practicum in Agricultural Education," "Program Planning in Agricultural Education," "Methods in Agricultural Education," and "Methods of Teaching Agricultural Mechanics" all have components that deal with preparing teachers to work with students in a contextual-based environment.

The same is true for similar courses in Home Economics Education. Contextual-based teacher preparation is integrated into all Home Economics Education

The College of Engineering, the College of Arts and Science, and the College of Agriculture and Biological Sciences all participate in the offering of the Master of Science in Teaching program. Options include Physics, Mathematics, Chemistry, and Biology. The MST program is content-oriented in all four disciplines. It is centered on concepts, not teaching methods. Practical applications are used to clarify or strengthen concepts for the teachers. They could be extended to the teacher's classroom if appropriate.

QUESTION 2 - Does your university provide teacher in-service opportunities in contextual-based coursework such as Applied Math, Principles of Technology, Applied Biology/Chemistry and Applied Communication?

The Agricultural Education program has provided on-going teacher in-service that has addressed this concept. The past several years programs have been provided that specifically addressed computer technology, shop technology, agri-science, horticulture, plant and animal science. The Agricultural Education program is planning to continue to address these areas as they relate to the needs of the teachers.

Again the same is true for Home Economics Education. In fact, last year a contextual-based in-service was held for Home Economics educators on the SDSU campus and as a result of a recent grant, another will be held in 1993-94.

The College of Arts and Science does not offer contextual-based teacher in-service opportunities in the Tech Prep areas indicated, but rather defers to departments and the College of Education and Counseling.

Regarding in-service programs relative to the MST, the PRISMS workshops offered through Physics to high school teachers concentrated on instructional strategies for motivating students and has some contextual references. These workshops are offered in the summer in Brookings.

QUESTION 3 - Which of the following contextual-based coursework does your university offer to students: Applied Math, Principles of Technology, Applied Biology/Chemistry and/or Applied Communications?

In Home Economics Education SDSU offers coursework on Applied Science in Home Economics Education. Competency and evaluation are also incorporated into all areas of Home Economics teacher preparation.

The College of Arts and Science does not offer any specific contextual-based coursework in the areas indicated, but defers to the College of Education and Counseling as appropriate.

Many courses in the MST in Physics, Mathematics, Chemistry, Biology, and also Computer Science are contextual-based courses. The Electronic Engineering Technology courses emphasize contextual/practical analysis and solutions.

I trust that this will assist you with your research. Should you need additional information, please contact me and I will put you in touch with the appropriate faculty member or administrator.

Sincerely,

Carol J. Peterson
Vice President for Academic Affairs

sc
copy to: Dr. Edward Hogan, Assistant Vice President
Dean Virginia Clark, College of Home Economics
Dean Darrell Jensen, College of Education and Counseling
Dean Duane Sander, College of Engineering
Dean Herbert Cheever, College of Arts and Science
Dr. Michel Hillman, Board of Regents

CF 064 675

# FREQUENTLY ASKED QUESTIONS ABOUT TECH PREP

UPDATE FOR APPENDIX D (Page 22) The following schools affiliated with Tech Prep Projects were not included in the printed document:

Mitchell Area Tech Prep Project - Mitchell Technical Institute

South Central Vocational Consortium:

| | | |
|---|---|---|
| Wagner | Menno | Andes Central |
| Avon | Scotland | Tripp/Delmont |
| Geddes | Bon Homme/Tyndall | |

Western Dakota Tech Prep Project - Western Dakota Technical Institute

Black Hill Special Services Vocational Consortium

| | | | |
|---|---|---|---|
| Custer | Spearfish | Hot Springs | Hill City |
| Lead/Deadwood | Black Hill Special Services Cooperative | | |

Correction: Under Western Dakota Tech Prep Project, please delete one "McIntosh" and add "Harding County/Buffalo".

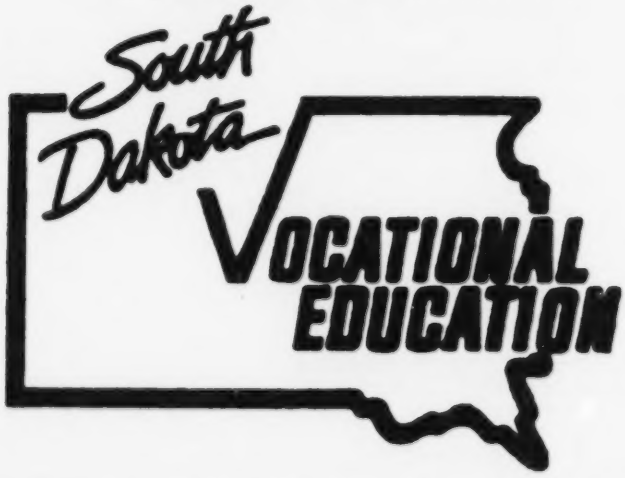
New Regional Tech Prep Coordinators (Question 19 page 6):

Dean Poppinga
Southeastern South Dakota Tech Prep Project
Southeast Technical Institute
2301 Career Place
Sioux Falls, SD 57107
(605)331-7624 FAX# (605)338-8305

Vicki Wiese and Myron Sonne
Central South Dakota Tech Prep Project
Mitchell Technical Institute
821 North Capitol
Mitchell, SD 57301
(605)995-3024 FAX# (605)996-3299

South Dakota Department of Education
and Cultural Affairs

Office of Adult, Vocational, &
Technical Education

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# ERIC

## Date Filmed
## March 14, 1994